

**REMARKS**

Claims 1-11 have been examined. Claims 1 and 2 have been rejected under 35 U.S.C. § 103(a), and the Examiner has indicated that claims 3-11 contain allowable subject matter.

**I. Preliminary matters**

The Examiner has objected to the title of the application because it is allegedly not descriptive. Applicant submits that the amendments to the title will overcome the objection.

**II. Rejection under 35 U.S.C. § 103(a) over U.S.P. 5,717,674 to Mori et al (“Mori”) and U.S.P. 6,366,548 to Ohyama (“Ohyama”)**

Claim 1 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Mori in view of Ohyama. Applicant submits that claim 1 is patentable over the cited references.

For example, claim 1 comprises a grating, a hologram, and a light receiving part. The grating generates two sub-beams from a laser beam. The hologram generates at least two first high-order beams from the laser beam and generates at least two second high-order beams from the pair of sub-beams. The light receiving part receives the two first high-order beams and the two second high order beams and generates error signals.

In Mori, when a DVD is being reproduced, a laser 1 outputs a laser beam towards a grating 3, and the grating 3 generates two sub-beams from the laser beam. (Column 8, lines 15-20 and 30-36). Then, a holographic optical element 4 transmits the laser beam and the two sub-beams towards the DVD, and the laser beam and two sub-beams reflect off of the DVD. (Column 9, lines 11-17). Subsequently, the element 4 respectively creates three first-order

diffracted beams from the three reflected beams (i.e. the reflected laser beam and the two reflected sub-beams). (Column 9, lines 50-55). Afterwards, the three first-order diffracted beams impinge upon a photodetector 7. (Column 8, lines 15-20).

As shown in Fig. 7 of Mori, the photodetector 7 has a four-segment detecting portion 7a, a first one-segment detecting portion 7b, and a second one-segment detecting portion 7b. (Column 10, line 66, to column 11, line 5). The four-segment detecting portion 7a receives the first-order diffracted beam corresponding to the reflected laser beam. (Column 10, line 66, to column 11, line 1). The first one-segment detecting portion 7b receives the first-order diffracted beam corresponding to one of the reflected sub-beams, and the second one-segment detecting portion 7b receives the first-order diffracted beam corresponding to the other one of the reflected sub-beams. (Column 11, lines 2-10).

As described above, when a DVD is being reproduced, the photodetector 7 only receives three beams: (1) the first-order diffracted beam corresponding to the reflected laser beam, (2) the first-order diffracted beam corresponding to one of the reflected sub-beams, and (3) the first-order diffracted beam corresponding to the other one of the reflected sub-beams. Accordingly, the photodetector 7 does not disclose or suggest the claimed light receiving part that receives two first high-order beams and two second high order beams as recited in claim 1.

In a similar manner, when a CD is being reproduced, a laser 2 outputs a laser beam towards the grating 3, and the grating 3 generates two sub-beams from the laser beam. (Column 8, lines 15-20 and 30-36). After the laser beam and the two sub-beams reflect off of the CD, the holographic optical element 4 respectively creates three first-order diffracted beams from the

three reflected beams. (Column 9, lines 50-55). Afterwards, the three first-order diffracted beams impinge upon a photodetector 8. (Column 8, lines 15-20).

For reasons that are similar to the reasons presented above in conjunction with the reproduction of the DVD, when a CD being reproduced, the photodetector 8 only receives three beams: (1) the first-order diffracted beam corresponding to the reflected laser beam, (2) the first-order diffracted beam corresponding to one of the reflected sub-beams, and (3) the first-order diffracted beam corresponding to the other one of the reflected sub-beams. Accordingly, the photodetector 8 does not disclose or suggest the claimed light receiving part that receives two first high-order beams and two second high order beams.

Also, the combination of the photodetectors 7 and 8 do not correspond to the claimed light receiving part. For example, as described above, the two first high-order beams and the two second high order beams that the light receiving part receives are directly or indirectly created from the same laser beam. On the other hand, the photodetector 7 only receives light when the laser 1 outputs a laser beam during the reproduction of a DVD, and the photodetector 8 only receives light when the laser 2 outputs a laser beam during the reproduction of a CD. Therefore, the three beams that impinge upon the photodetector 7 and the three beams that impinge upon the photodetector 8 are not created from the same laser beam.

In light of the discussion above, Applicant submits that Mori does not disclose or suggest the claimed light receiving part. Also, since Ohyama does not cure the deficient teaching of Mori with respect to claim 1, Applicant submits that claim 1 is patentable.

**III. Rejection under 35 U.S.C. § 103 (a) over Mori, Ohyama, and U.S.P. 5,912,868 to Hayashi et al. (“Hayashi”)**

Claim 2 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over Mori, Ohyama, and Hayashi. Since claim 2 depends upon claim 1 and since Hayashi does not cure the deficient teachings of claim 1 with respect to Mori and Ohyama, Applicant submits that claim 2 is patentable at least by virtue of its dependency.

**IV. Objection to claims 3-11**

The Examiner has objected to claims 3-11 for being dependent upon rejected base claim 1 but has indicated that they would be patentable if they are rewritten in independent form. Since Applicant submits that the rejection of claim 1 will be overcome, Applicant likewise believes that the objection to claims 3-11 will likewise be overcome.

**V. Newly added claims**

Applicant has added new claims 12-39 to provide more varied protection for the present invention.

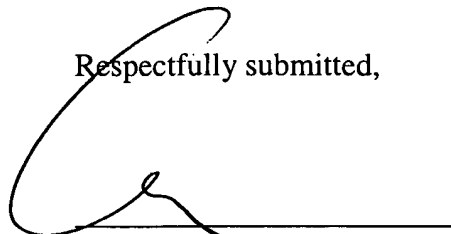
**VI. Conclusion**

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111  
U.S. Appln. No. 09/885,167

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Grant K. Rowan', is written over a horizontal line.

Grant K. Rowan  
Registration No. 41,278

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: April 30, 2004